BERJAYA UNIVERSITY COLLEGE

BERJAYA BUSINESS SCHOOL

FINAL EXAMINATION

Student ID (in Figures)   :

Student ID (in Words)   :

Course Code & Name   :   **STA1014 INTRODUCTION TO MATHEMATICS AND STATISTICS**
Trimester & Year   :   May – August 2018
Lecturer/Examiner   :   Ms. Faridah Hanum Amran
Duration   :   2 Hours

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INSTRUCTIONS TO CANDIDATES

1.   **This question paper consists of 2 parts:**
      PART A (30 marks)   :   THIRTY (30) multiple-choice questions. Answers are to be shaded in the Answer Booklet provided.
      PART B (70 marks)   :   FOUR (4) problem solving questions. Answers are to be written in the Answer Booklet provided.
2.   **Candidates are not allowed to bring any unauthorized materials except writing equipment into the Examination Hall. Electronic dictionaries are strictly prohibited.**
3.   **This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.**
4.   **Only ballpoint pens are allowed to be used in answering the questions, with the exception of multiple-choice questions, where 2B pencils are to be used.**

WARNING: The University Examination Board (UEB) of BERJAYA University College regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from BERJAYA University College.

Total Number of pages = 10 (Including the cover page)

PART B : **PROBLEM SOLVING QUESTIONS (70 MARKS)**

INSTRUCTION(S) : **FOUR (4)** problem solving questions. Answer **ALL** questions in the Answer Booklet(s) provided.

Question 1

a. Differentiate between descriptive statistics and inferential statistics.

(4 Marks)

b. Explain any **TWO (2)** reasons why sometimes secondary data are preferred to primary data.

(4 Marks)

c. State any **FOUR (4)** reasons why sampling is preferred to census.

(4 Marks)

d. Define each of the following terms:
   a. Sampling frame
   b. Population
   c. Discrete variable

(6 Marks)

e. Briefly explain why we need to be careful when using secondary data.

(2 Marks)

[Total: 20 Marks]

Question 2

a. State a suitable method of data collection for each of the following:
    i.   To determine the acceptance level of a newly introduced soft drink.   (2 Marks)
    ii. To obtain the opinions of the public on the yearly renewal of driving licenses.
                                                                                    (2 Marks)
    iii. The Public Service Department wants to carry out a survey on students studying overseas under its sponsorship. The objective of the study is to collect information on the problems faced by them.   (2 Marks)

b. Find the equations of a straight line passes through the point (14,7) and has a slope of 5.
                                                                                    (4 Marks)

c. Solve using the quadratic method for $10x^2 - 11x - 6 = 0$
                                                                                    (10 Marks)

[Total: 20 marks]

Question 3

Solve the following system of equations by Cramer's rule:

$$x - 2y + 2z = 5$$

$$x - y = -1$$

$$-x + y + z = 5$$

[Total: 20 marks]

Question 4

a. List the two methods that are usually used in solving a system of equations.

(2 Marks)

b. Determine the number of solutions for below:

     i. $b^2 - 4ac > 0$

     ii. $b^2 - 4ac = 0$

     iii. $b^2 - 4ac < 0$

(6 Marks)

c. List any **ONE** (1) factor that might affect the quantity of supply for computer.

(2 Marks)

[Total: 10 marks]

END OF QUESTION PAPER